Before Diagnosis: Lung Cancer Screening
Part 1: Evidence & Guidelines
June 28, 2018
9:00-10:30 am ET
Kevin Oeffinger, MD
Lead Facilitator
<table>
<thead>
<tr>
<th>Time (9-10:30 am EST; 8-9:30 am CST)</th>
<th>Presentation</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 – 9:10 am</td>
<td>Introductions/Agenda Review</td>
<td>Kevin Oeffinger, MD, Robert Smith, PhD, Robert Volk, PhD</td>
</tr>
<tr>
<td>9:10-9:40 am</td>
<td>Didactic Presentation: Before Diagnosis: Lung Cancer Screening Guidelines</td>
<td>Robert Smith, PhD (Presenter), Robert Volk, PhD, (Presenter) Peter Mazzone, M.D.</td>
</tr>
<tr>
<td>9:40- 9:55 am</td>
<td>Didactic Q&amp;A</td>
<td>Kevin Oeffinger, MD (Facilitator)</td>
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<tr>
<td>9:55 – 10:10 am</td>
<td>Case Presentation</td>
<td>Luann Jeffries, Outreach Coordinator, Cabin Creek Health Systems</td>
</tr>
<tr>
<td>10:10 – 10:25 am</td>
<td>Case Discussion/Q &amp; A</td>
<td>Kevin Oeffinger, MD (Facilitator)</td>
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<tr>
<td>10:25 – 10:30 am</td>
<td>Wrap up: Implementation ideas and take aways Next ECHO session on July 26, 2017 9-10:30 am: Before Diagnosis: Lung Cancer Screening and Nodule Management</td>
<td>Kevin Oeffinger, MD</td>
</tr>
</tbody>
</table>

*Sessions will be recorded.
*Please mute phones when not speaking. Mute cell phones and try to reduce extraneous noise.

**Disclosure**

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Before Diagnosis: Lung Cancer Screening Part 1: Evidence & Guidelines

Robert A. Smith, PhD
Vice President, Cancer Screening
American Cancer Society
Adjunct Professor of Epidemiology
Emory University Rollins School of Public Health
Estimated New U.S. Lung Cancer Cases & Deaths by Sex, 2018

Both sexes combined
- Estimated new cases / Lung and bronchus: 234,030
- Estimated deaths / Lung and bronchus: 154,050

Female
- Estimated new cases / Lung and bronchus: 112,350
- Estimated deaths / Lung and bronchus: 70,500

Male
- Estimated new cases / Lung and bronchus: 121,680
- Estimated deaths / Lung and bronchus: 83,550

Source: American Cancer Society, 2018
Trends in U.S. Lung Cancer Incidence Rates, by Sex, 1975-2014, per 100,000, age adjusted to the 2000 US standard population.

Source: Surveillance, Epidemiology, and End Results (SEER) 9 registries, National Cancer Institute, 2017
Trends in U.S. Lung Cancer Mortality Rates, by Sex, 1930-2015, per 100,000, age adjusted to the 2000 US standard population.

Source: National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention, 2017
5-year relative survival, 2007-2013, Among cases diagnosed from 2007 to 2013, followed through 2014

Source: Surveillance, Epidemiology, and End Results (SEER) 18 registries, National Cancer Institute, 2017
For many years, we have fought a losing battle in our efforts to prevent lung cancer deaths in current and former smokers.
Lung Cancer Screening with Low Dose Spiral CT, 
*Lancet* 1999

- In the New York ELCAP, low-dose CT was associated with a 5-fold difference compared with chest X-ray in the detection of early stage, resectable lung cancers.

There were 20% fewer lung cancer deaths, and 6.7% fewer all cause deaths, in the LDCT arm compared with the CXR arm.

Number needed to screen to prevent 1 lung cancer death = 320
<table>
<thead>
<tr>
<th>Eligibility Criteria for the National Lung Screening Trial Mirrors Most Screening Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
</tr>
</tbody>
</table>
| **Smoking history** | 30 pack years.  
(A pack year is the equivalent of 1 pack of cigarettes per day per year.  1 pack per day for 30 years or 2 packs per day for 15 years would both be 30 pack-years). |
| **Former smoker** | Must have quit within 15 years |
| **General health exclusions** | Metallic implants or devices in the chest or back  
Requirement for home oxygen supplementation  
Poor health, limited longevity |
We now have lung cancer screening guidelines..., mostly they are similar (differences highlighted)

<table>
<thead>
<tr>
<th>Organization</th>
<th>Age to start</th>
<th>Age to stop</th>
<th>Shared/informed decisions?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS</td>
<td>55 NLST*</td>
<td>74, or once 15 years since year quite is reached</td>
<td>Yes</td>
</tr>
<tr>
<td>USPSTF</td>
<td>55 NLST</td>
<td>80, or once 15 years since year quit is reached</td>
<td>Yes</td>
</tr>
<tr>
<td>CMS</td>
<td>55 NLST</td>
<td>77, or 15 yrs</td>
<td>Yes</td>
</tr>
<tr>
<td>NCCN</td>
<td>55 NLST</td>
<td>No stopping age</td>
<td>Yes</td>
</tr>
<tr>
<td>NCCN 2 (Higher Risk)*</td>
<td>50</td>
<td>No stopping age</td>
<td>Yes</td>
</tr>
<tr>
<td>AAFP</td>
<td>Insufficient evidence to recommend for or against lung cancer screening</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*NLST Criteria: Current or former smoker (quit within 15 years) ages 55-74 with 30 pack year or greater smoking history

*NCCN High Risk: Current or former smoker ≥ 50 years with ≥ 20 pack year history and one additional risk factor (asbestos, radon, family history, etc.)
Current Status of LDCT Screening in the U.S.

- The USPSTF “B” rating means that the Affordable Care Act requires coverage of lung cancer screening with no out-of-pocket costs
- CMS also covers LDCT screening and the shared decision making visit
From the CMS Coverage Decision—Referring Clinicians & Patients

• *For the initial LDCT lung cancer screening service:* a beneficiary must receive a written order for LDCT lung cancer screening during a lung cancer screening counseling and shared decision making visit, furnished by a physician, qualified non-physician practitioner (meaning a physician assistant, nurse practitioner, or clinical nurse specialist).

• *A lung cancer screening counseling and shared decision making visit* includes the following elements (and is appropriately documented in the beneficiary’s medical records):
  – Determination of beneficiary eligibility
  – **Shared decision making**
    – Counseling on the importance of adherence to annual lung cancer LDCT screening, impact of
    – comorbidities and ability or willingness to undergo diagnosis and treatment;
    – Counseling on the importance of maintaining cigarette smoking abstinence or cessation
    – If appropriate, the furnishing of a written order for lung cancer screening with LDCT.
Screening is a Cascade of Events

- A target population
- Referring MD’s
  - (information & referral)
- The Test
  - High quality image
  - High quality interpretation
  - High quality evaluation of positive results
  - Management of patients in surveillance for small pulmonary nodules
Uptake of lung cancer screening has been slow....why?

A cancer screening flop: Few smokers seek free lung scans

By MARILYN MARCHIONE
May 16, 2018

REMOVED TOPICS
Smoking
Lung cancer
Cancer

More from U.S. News
How do we explain low rates of lung cancer screening (1)?

- In the U.S. we do not have organized screening
- Primary care clinicians are the gatekeepers to lung cancer screening
  - Insufficient time
  - Not experienced in risk assessment
  - EHRs typically do not have accurate smoking history information, nor do they accurately calculate pack years
  - Primary care providers are unfamiliar with the obligations of their role in discussing and referring patients to lung cancer screening
  - Additional obligation of tobacco treatment
  - PCP antipathy to current and former smokers is well established
  - High rates of post-screening nodule surveillance is an additional challenge
How do we explain low rates of lung cancer screening (2)?

- Pathway to screening may be through Pulmonology or Radiology...these pathways are not generally locally established, and in some instances, contested
- Radiology has been slow to embrace lung cancer screening
  - CMS was slow to establish a reimbursement rate
  - Capacity is limited (sometimes as few as only several exams a day or less)...CT machines generally are booked for higher reimbursement procedures
  - Radiologists have been imaging the lung with CT for many years...screening is new and novel
- Adults at risk are not well informed about lung cancer screening
- Stigma, nihilism, and fatalism may be a factor
How do we explain low rates of lung cancer screening (3)?

• Cost of post-screening nodule surveillance and subsequent screening after a positive test result may be a deterrent.

• Of note, over 50% of smokers meeting USPSTF recommendations for LDCT screening were uninsured or Medicaid insured.

• Finally, while there are data to suggest that the provider community has been slow to embrace lung cancer screening, there are no data that suggests that patients are shunning the opportunity to be screened for lung cancer.
Before Diagnosis: Lung Cancer Screening
Part 1: Shared Decision Making

Robert J. Volk, PhD
Professor and Deputy Director
Department of Health Services Research
The University of Texas MD Anderson Cancer Center
Few smokers are being screened for lung cancer

Screening is low (among “eligible” smokers):
- 2010: 2.9%
- 2015: 5.8%

Discussions about LCS between smokers and health care providers are infrequent:
- 2012: ~17%
- 2014: ~10%
Conversations with patients about cancer screening are not optimal

The DECISIONS Study

• 2006 – 2007
• Surveyed 1082 adults 50+ years of age from general U.S. population.
• Reported discussions about cancer screening tests.

Reported conversations with doctor

- Asked about preferences
- Discussed pros
- Discussed cons

Prostate, CRC - men, CRC - women, Breast

Patients want to participate in medical decision making

2002 General Social Survey

- Nationally representative sample of English-speaking adults (n=2,765).

- Asked about preferences for health care decision making, ranging from patient-directed to physician-directed.

- "I prefer to leave medical decisions to my doctor"
  - 52% agree (older, lower education, male, non-white, poorer health status)

- "I prefer my doctor offers me choices and asks my opinions"
  - 96% agree (no ethnicity or education differences)

Prefer to participate in health decisions?

1974-1989: 43%
1990-1999: 51%
2000-2007: 71%

Increasing historically!
Shared decision making is a model of patient-centered care that enables and encourages people to play a role in the medical decisions that affect their health. It operates under two premises:

- First, consumers armed with good information can and will participate in the medical decision making process by asking informed questions and expressing personal values and opinions about their conditions and treatment options.
- Second, clinicians will respect patients' goals and preferences and use them to guide recommendations and treatments.
- The aim of shared decision making is to ensure that patients understand their options and the pros and cons of those options and patient's goals and treatment preferences are used to guide decisions (www.ahrq.gov).
Why shared decision making matters

- Increasing emphasis on patients as partners in their care
- Patients want to be involved in their care (information vs “final say” authority)
- Better short-term outcomes (cognitive/affective)
- Potential to impact long-term patient outcomes
- Potential to decrease practice variation
- Potential to decrease costs
- Greater legal protection when certified patient decision aids are used (“informed consent squared”)
- A better process!
- It’s the right thing to do!
2. Shared decision making, including:

- Use of 1 or more decision aids, to include...
  - Benefits, harms, follow-up diagnostic testing, over-diagnosis, false positive rate, total radiation exposure.

Documented in the medical record

Points to Discuss with your Patients

1. LDCT is the only recommended screening approach for lung cancer.
2. Screening is not a substitute for quitting smoking. The most important way to lower your chance of dying from lung cancer is to stop smoking.
3. Screening should be done annually until the patient no longer needs to be screened or no longer meets the screening criteria.
4. Screening is a process. An abnormal LDCT scan does not necessarily mean cancer. Additional testing may be needed to determine a diagnosis.
5. Review the evidence about the benefits and harms of screening with your patients.

Communicating Evidence to Patients: **Benefits**

**Verbatim Message**

1. Really tough to explain!

2. About 320 people need to be screened to prevent 1 death from lung cancer (compares favorably to CRC screening and breast cancer screening).

**Gist Message**

1. Not smoking is the best way to lower your chances of developing and dying from lung cancer.

2. LCS can find cancer early when the chance for cure is greater.

3. LCS may lower your chances of dying from other causes, but the research isn’t clear on this point.

4. Most people diagnosed with lung cancer through LDCT screening will die from the disease.

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### Benefits: How did LDCT scans compare with chest x-rays in reducing deaths from lung cancer per 1,000 people screened?

<table>
<thead>
<tr>
<th></th>
<th>LDCT</th>
<th>Chest x-ray</th>
<th>Deaths from lung cancer over 6.5-year followup period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18 in 1,000</td>
<td>21 in 1,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70 in 1,000</td>
<td>75 in 1,000</td>
<td>5 in 1,000 fewer deaths from lung cancer with LDCT</td>
</tr>
</tbody>
</table>

*About the NLST: more than 50,000 smokers participated; participants had up to three annual screenings; average followup was 6.5 years.*
Communicating Evidence to Patients: 
*Follow-up Diagnostic Testing*

**Verbatim Message**

1. If 1,000 people are screened every year for 3 years, 18 will go on to have a diagnostic procedure (among those with a false positive result).

2. Fewer than 1 of these 18 people will have a major complication from the procedure (eg, infection, bleeding in the lung, collapsed lung).

**Gist Message**

1. Some people with an abnormal scan need a biopsy.

2. It is possible the biopsy can harm you, but these harms are rare.
Communicating Evidence to Patients: *Overdiagnosis of Lung Cancer*

**Problems:**
1. Patients don’t understand the concept.
2. Patients often confuse overdiagnosis with false positives.
3. It is unclear how important overdiagnosis is to patients in making a screening decision.
4. The magnitude of overdiagnosis in LCS is unclear.

**Verbatim Message**
1. About 10-20% of lung cancers diagnosed with LDCT will not progress to cause death.

**Gist Message**
1. It is possible you will be diagnosed with a lung cancer that would never have harmed you. We don’t know how likely that might be.
Communicating Evidence to Patients:  
*False Positives ("false alarms")*

**Verbatim Message**

1. If 1,000 people are screened every year for 3 years, about 356 will have a false alarm (about 1 in 3, or 36%).
2. Using new criteria for what is considered an abnormal finding, the rate of false alarms is much lower.

**Gist Message**

1. Most people with an abnormal LDCT scan do not have lung cancer.
2. False alarms are common. Because you need to be screened every year, you should be ready to have a false alarm at some time.
Communicating Evidence to Patients: *Radiation Exposure*

**Gist Message**

We don’t know how being screened every year and having additional scans if something abnormal is found might harm a patient.

<table>
<thead>
<tr>
<th>Source of Radiation</th>
<th>Millisieverts (mSv) Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Travel 10 Hours</td>
<td>0.04 mSv</td>
</tr>
<tr>
<td>Chest X-ray</td>
<td>0.1 mSv</td>
</tr>
<tr>
<td>Mammogram</td>
<td>0.4 mSv</td>
</tr>
<tr>
<td>LDCT for Lung Cancer Screening</td>
<td>1.4 mSv</td>
</tr>
<tr>
<td>Average Background Radiation (U.S., 1 Year)</td>
<td>3 to 5 mSv</td>
</tr>
<tr>
<td>Diagnostic CT</td>
<td>7 mSv</td>
</tr>
</tbody>
</table>

mSv=millisievert, a measure of the amount of radiation absorbed by the body.
Decision Aids for LCS

What are the facts about lung cancer?
- Lung cancer is the leading cause of cancer death in the United States. Each year, about 250,000 people are diagnosed with lung cancer and 150,000 people die from lung cancer.
- More than half of the people diagnosed with lung cancer are 70 years of age or older.

What should be screened for lung cancer?
- The American Thoracic Society (ATS) is sponsoring several Tobacco Control and Cancer Screening (TACS) projects which are designed to promote smoking cessation and cancer screening in high-risk populations.

Possible signs and symptoms of lung cancer:
- Know enough that does not go away after a few weeks.
- Cough that is different than you.
- Localized chest pain.
- Persistent cough.
- Coughing up blood or having blood in sputum.
- Chest pain.
- Shortness of breath.

Calculating pack-years' CT (in parenthesis):

- 1 pack-year = 20 cigarettes per day for 1 year
- 2 pack-years = 40 cigarettes per day for 1 year
- 5 pack-years = 100 cigarettes per day for 1 year
- 20 pack-years = 400 cigarettes per day for 1 year

Should I get screened?

choicemips.org


shouldiscare.org © U Michigan

https://effectivehealthcare.ahrq.gov/decision-aids/lung-cancer-screening/home.html


## Impact of cancer screening decision aids on patient choice

<table>
<thead>
<tr>
<th>Cancer screening aid</th>
<th>Impact on screening behavior compared to usual care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate cancer screening</td>
<td>Reduction 12%</td>
</tr>
<tr>
<td>Colorectal cancer screening</td>
<td>Increase 30%</td>
</tr>
<tr>
<td>Lung cancer screening</td>
<td>Unknown</td>
</tr>
<tr>
<td>Breast cancer screening (&quot;younger&quot; women, &quot;older&quot; women)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Other cancer screening</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

LCS rates for patients receive decision support vary widely:

- Over 90% in pulmonary setting
- ~50% in primary care setting

Because screening rates are so low nationally, any decision support should lead to an increase in screening.

Volk 2007, 2017; Mazzone 2016; Reuland 2018.
shouldiscreen.com

Modules

• Things you should know about lung cancer screening
• What are the benefits and harms of screening?
• How does lung cancer CT screening compare with other kinds of screening?
• Lung cancer and its causes
• Pack year calculator
• Smoking cessation resources
Things you should know about lung cancer screening

WHAT ARE THE BENEFITS OF SCREENING?
For people who are eligible for screening and decide to get screened, the chances of finding cancer early is higher. Finding cancer early generally means that there are more treatment options available. A recent study showed that after 6.5 years, among those who were eligible for screening, those who were screened with CT were 20% less likely to die from lung cancer compared to those who were not screened with CT.

FALSE ALARMS
Screening works by finding lung nodules, some of which are cancer, but the vast majority (over 96%) of nodules detected on screening are not cancer. These false positive findings outnumber cancers 25 to 1. False positive findings have the potential to cause anxiety. However, understanding that the vast majority of lung nodules found on CT screening do not represent cancer helps most patients avoid significant anxiety while they wait for follow-up testing.
shouldiscreen.com – LC Risk Calculator

Lung Cancer Risk Calculator

Do you want to know if you should be screened? Use our calculator to see your personalized lung cancer risk.

Given your age and smoking history, you are eligible for screening according to the US Preventive Services Task Force criteria.

The chance of you developing lung cancer in the next 6 years is 3.2%. Talk to your doctor about the option to screen or not to screen as s/he will understand your situation best.

© University of Michigan.
Compared to other people like you, there will be 6 fewer deaths out of 1000 in the next 6 years if you get screened.

**NOT SCREENED**
- 22 deaths from lung cancer

**SCREENED**
- 26 deaths from lung cancer
- 6 fewer lung cancer deaths due to screening

**BENEFITS**

- 6 in 1000 fewer people like you will die from lung cancer among those who were screened compared to those who were not screened.

**HARMS**

- 365 in 1000 people who were screened found a lung nodule that was not cancer.
- 18 in 1000 had an invasive procedure, such as biopsy or surgery, due to a lung nodule that was not cancer.
- 3 in 1000 had a major complication from invasive procedures.
- Of the lung cancers found by screening, about 1 in 10 would have never harmed you (overdiagnosis). This may lead to unnecessary treatment and complications.

© University of Michigan.
Lung Cancer Screening: Is it right for me?

- DVD format and web-enabled video
- Approx. 9 minute video
- Content:
  - Eligibility criteria
  - Overview of screening
  - Magnitude of benefits/harms (visual display)
  - Values clarification
- Messaging: Importance of smoking cessation!
- Meets certification standards
SDM Model for Deliberation about LCS

Step 1: Choice Talk
Help patient understand a decision needs to be made.
- LCS is a choice.
- Preferences matter.

Step 2: Option Talk
Provide more detail about the LCS decision.
- Check understanding.
- Clearly state options.
- Present information about benefits/harms.

Use a decision aid!

Step 3: Decision Talk
Consider the patient’s preferences and decide together about LCS.
- Explore issues of importance.
- Assess readiness.
- Offer more info to undecided.
- Decision can be reviewed again later.

Adapted from Elwyn et al, JGIM 2012.
The importance of shared decisionmaking

Lung cancer screening with low-dose computed tomography (LDCT) reduces mortality from lung cancer. There are also potential harms associated with lung cancer screening, including a high-false positive rate and the associated need for diagnostic followup, known and unknown risks of additional testing associated with incidental findings, cumulative radiation exposure, and overdiagnosis. Shared decisionmaking is a collaborative patient-centered process in which patients and clinicians make decisions together, within the context of the best evidence and recommendations and based on the patient’s values and preferences.

Tips To Promote a Shared Decision
Below is a five-step process for shared decisionmaking that includes exploring and comparing the possible benefits and harms of each option through meaningful dialogue about what matters most to the patient.

STEP 1: Seek your patient’s participation in the decisionmaking process.
STEP 2: Help your patient explore and compare the potential benefits and harms of lung cancer screening, and assess your patient’s level of understanding. (See the teach-back examples in the box to the far right.)
STEP 3: Assess your patient’s values and preferences about lung cancer screening.
STEP 4: Reach a decision about lung cancer screening with your patient.
STEP 5: Evaluate your patient’s feelings about the decision by having a followup discussion.

Talking Points
Below are specific points to address during the clinical encounter.

- Lung cancer screening can be effective if patients 1) follow the screening protocol, 2) undergo diagnostic followup procedures after a positive screening result, and 3) receive treatment, which has potential harms.
- Screening does not mean that smoking is OK. Smoking still causes lung cancer, cardiovascular disease, and other lung disease.
- Screening can lead to early treatment that can prevent some, but not all, lung cancer deaths.
- False-positive results ("false alarms") are common, and additional scans or invasive procedures may be needed. Less commonly, major complications of invasive procedures can occur, including bleeding, infection, or a collapsed lung.
- Lung cancer screening may find lung cancer that would not have ever caused symptoms or harmed the patient in his or her lifetime if the cancer had not been found. This could lead to treatment of people who do not really need treatment.
- Screening and followup testing exposes patients to radiation. The harms associated with cumulative radiation exposure are unknown.
- Screening should stop if the patient 1) exceeds the upper age criterion, 2) no longer wants screening, 3) has a worsening health condition that limits their life expectancy or increases the risk of complications from lung surgery, or 4) has not smoked for 15 years.

Teach-Back Examples

“I know I have given you a lot of information. Tell me in your own words what you have heard.”

“What are your thoughts about lung cancer screening?”

“Let’s stop right there for a moment. What questions or comments do you have about the information I have given you?”

Ordering Information
Lung Cancer Screening with Low-Dose Computed Tomography (LDCT): Tools for Primary Care Clinicians, is a free multicomponent resource to support decisionmaking about lung cancer screening in the primary care setting. For electronic copies of this multicomponent resource, visit www.effectivehealthcare.ahrq.gov/LCS/

Referral Information
To find a radiology imaging facility that meets the CMS eligibility criteria, please visit:

www.cms.gov/Medicare/
Medicare-General-Information/
MedicareApprovedFacility/
Lung-Cancer-Screening-Registries.html

AHRQ Publication No. 16-0007-11
March 2016

https://effectivehealthcare.ahrq.gov/decision-aids/lung-cancer-screening/clinicians-checklist.html
Before Diagnosis: Lung Cancer Screening

Part 1: Implementation and Patient Case Study

LDCT National Pilot Project at Cabin Creek Health Systems

Luann Jeffries
Breathing Center Assistant
Cabin Creek Health Systems
Patients with a Tobacco History
n=507

- Male Current Smokers: 190
- Female Current Smokers: 221
- Male Former Smokers: 45
- Female Former Smokers: 51
Patients Screened at Cabin Creek
n=353

Eligible:
• Age 55-77
• 30+ pack/year history
• Smoked in last 15 years
• Asymptomatic
LDCT Ordering Guidelines

Requirements for LDCT screening:
1. DOB (must be age 55-77)
2. Pack/year of smoking (must be >30) Cigars DON'T count
3. Current smoking status needs to be documented.
4. If a former smoker, years since the patient stopped smoking. (must be <15)
5. A statement that the patient is asymptomatic.
6. It is a shared decision making visit.
7. Smoking cessation info provided if a current smoker.
8. No diagnostic CT within the past year.

Screening
No symptoms that indicate lung ca
Symptoms i.e. SOB, cough w/out blood are ok

How to calculate pack years
Formula -- PPD x yrs smoked.
Examples 1 ppd for 30 yrs = 30 pk yrs
½ ppd for 60 y = 30 pk yrs
2 ppd for 15 y = 30 pk yrs
Pts sometimes quit for a period of time. Subtract that out to get correct pk yrs.

Diagnostic
Weight loss, blood, xray prompted the order. History of lung cancer, only if pt is still being followed by oncologist.
Current cancer i.e. prostate, stomach.

6 month follow-ups are to be scheduled as LDCT SCREENING

LDCT Order Set in Athena -- PLEASE USE
CPT G0297 – ICD10 – Z87.891 – personal history of tobacco use
Do these patients qualify for LDCT?

- 65 year old female
- 1 pk/day for 10 years, 2 pk/day for 20 years
- Quit smoking 2005
- Current kidney cancer

- 67 year old female
- 1 pk/day for 30 years
- Current smoker
- Coughing up blood

- 53 year old male
- 1 pack/day for 40 years
- Current smoker
- Asymptomatic

- 59 year old male
- 1 pack/day for 35 years
- Current smoker
- Non-productive cough
<table>
<thead>
<tr>
<th>Social History</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking status</td>
<td>Current every day smoker</td>
<td>as of 6/26/18</td>
</tr>
<tr>
<td>Smoking - how much</td>
<td>1 PPD</td>
<td>1ppd 40 yrs, .5 ppd 21 yrs =51.5 pk yrs</td>
</tr>
<tr>
<td>Tobacco-years of use</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Has smoked since age</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Chewing tobacco</td>
<td>1/day</td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td>retired daycare provider</td>
<td></td>
</tr>
<tr>
<td>Are you currently employed</td>
<td>Yes  No</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Diet</td>
<td>Regular</td>
<td></td>
</tr>
<tr>
<td>Exercise level</td>
<td>None</td>
<td></td>
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</tbody>
</table>
Breakdown of L-RADS Findings for Cabin Creek
n=157

- Negative (L-RAD 1): 47%
- Benign appearance or Behavior (L-RAD 2): 16%
- Probably benign (L-RAD 3): 28%
- Suspicious (L-RAD 4): 9%

25% of screened patients had L-RAD 3 or L-RAD 4 findings!!
How to follow up Lung Rads findings:

• Lung Rads 1 – No nodules or definitely benign nodules. LDCT repeat in 1 yr.
• Lung Rads 2 - Nodules w/very low chance off CA. LDCT repeat in 1 yr.
• Lung Rads 3 - Probably benign findings-short term f/up suggested 6 month LDCT.
• Lung Rads 4A – Additional diagnostic testing needed 3 month LDCT; PET may be used if a <8mm solid component.
• Lung Rads 4B – Additional diagnostic testing CT or PET asap.
Patient Case

- 59 year old w/88 pk year history. Pt was referred by physician for a screening LDC. LDCT showed Lung Rads 4B. PET performed 1 week later and pt referred to a CT surgeon. Lung mass unresectable and started radiation & completed it (3 month scan to rad). Staging 4. Also seeing a pulmonologist.
- We noticed pt didn’t follow-up with Pulmonologist or had f/up CT. Pt has insurance but couldn’t afford the copays & had transportation problems.
- PAF contacted. They assisted patient to qualify for presumptive disability getting some financial aid & MCD secondary until he gets full disability. ACS # provided to the patient as they can help with transportation issues.
- Treatment concerns... Pt gets screening but if need further treatment patient may not have family/friend to help.
Discussion Questions for Group

• How would we most effectively have a conversation with this patient about benefits and risks of screening that is both balanced and appropriate for their education level/understanding? How do you avoid overwhelming the patient? Who should have this conversation with the patient?

• What transportation/financial resources exist for patients like this, when screening is covered, but follow up screening and treatment coverage/access are the barrier? How can we best prepare for managing these cases?
Thank you for participating in this ECHO Clinic. Don’t forget to complete your online survey/assessment!

Join us Next Month for
Lung Cancer Patient Support ECHO Session 2
Before Diagnosis: Lung Cancer Screening-Diagnostic Follow up
July 26, 2018
9:00 am ET
Presenters:
Joelle Fathi, DNP, RN, ARNP
Maria Chong, MD (Radiologist)
Deborah Klein, MD (Primary Care)
Case Presentation: Volunteer Needed